

REMARKS

Claims 1-9 and 11-14 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hinkley et al. (Research Publication ACM UIST 2000 Symposium on User Interface Software and technology, CHI letters 2 (2), pp. 91-100). Claim 10 was rejected under 35 U.S.C. §103(a) as being unpatentable over Hinkley in view of Kalinski et al. (US 2000/0174307). The examiner is requested to reconsider these rejections.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

Claim 1 claims a "mobile cellular telephone comprising ... an inclinometer mode, in which the processor receives an indication of the detected incline in the first plane from the incline sensor and controls the display to display an item at a position dependent upon the received indication".

The present invention relates to a mobile cellular telephone 10 which includes an incline sensor 16 that is arranged to detect the inclination of the mobile telephone 10. The mobile telephone 10 also includes a processor 12 which is arranged to receive signals from the incline sensor 16 when the mobile telephone 10 is placed in an inclinometer mode (i.e. a mode where the telephone acts as an instrument for enabling a user to measure the inclination of the mobile telephone). The processor 12 receives signals from the incline sensor 16 and controls a display 14 to display an item whose position is

dependent upon the inclination measured by the incline sensor 16.

Hinckley describes a mobile device (in particular, a sensor-enriched mobile device based on the Cassiopeia E-105 Palm-sized PC) that includes a plurality of different sensors (proximity range sensor, touch sensitivity sensor, and a tilt sensor) for controlling aspects of the mobile devices functionality and graphical user interface.

As mentioned on page 93, first paragraph, the tilt sensor is a two axis linear accelerometer that detects the tilt of the device relative to the constant acceleration of gravity. The tilt sensors are used to detect the tilt angle of the device and then control the display so that an image is displayed in a landscape mode or a portrait mode according to the detected tilt of the device (see page 96 and Fig. 8). Fig. 9 illustrates how the device selects the portrait/landscape mode according to the detected angle of the device.

The tilt sensors may be used to scroll through items on a display (see page 97) and the rate of scrolling is dependent upon the tilt angle. The tilt sensors may also be used to determine when the device should be powered on/off in conjunction with other sensors (see page 98).

Hinckley does not disclose "a mobile cellular telephone" that "has an inclinometer mode, in which the processor receives an indication of the detected incline in the first plane from the incline sensor and then controls the display to display an item at a position dependent upon the received indication" as recited in claim 1.

Additionally, Hinckley fails to disclose a device which can enable a user to measure the inclination of the device or that the device may be used to measure the inclination of a surface. Hinckley merely discloses that the device may be tilted to control aspects of the graphical user interface (the display mode or scrolling) or may be used to power on/of the device. Hinckley does not disclose that the device enables a user to determine the inclination of the device when in an inclinometer mode, as changes to the display are uncalibrated and cannot be used to determine inclination angles of the device.

In embodiments of the present invention, the inclination mode of the mobile telephone enables the telephone to function as an inclinometer which consequently enables the user of the telephone to measure the inclination of the telephone. As described in the description on pages 4-7, this feature provides an advantage in that it enables the user to measure the inclination of a surface using the mobile telephone.

Hinckley does not teach providing an inclinometer mode in a device. Hinckley is concerned with using the inclination information to control a display, but does not teach or suggest controlling the display in such a way that the device can be used as an inclinometer. Consequently, there would be nothing to motivate a person skilled in the art to adapt the teachings of Hinckley so as to fall within the scope of independent claim 1.

In the present case, there is no teaching, suggestion, or motivation, found in the reference itself or in the knowledge

generally available to one of ordinary skill in the art, to provide "a mobile cellular telephone" that "has an inclinometer mode, in which the processor receives an indication of the detected incline in the first plane from the incline sensor and then controls the display to display an item at a position dependent upon the received indication" as claimed in claim 1. Independent claim 1 is neither anticipated, nor rendered obvious by the cited prior art document. Therefore, claim 1 is patentable and should be allowed.

Though dependent claims 2-9, 13 and 14 contain their own allowable subject matter, these claims should at least be allowable due to their dependence from allowable claim 1. However, to expedite prosecution at this time, no further comment will be made.

Claim 10 claims a "mobile cellular telephone as claimed in claim 1 [a mobile cellular telephone that "has an inclinometer mode"], wherein the incline sensor comprises a first pair of electrodes aligned along the first plane and partially immersed in a liquid for providing a first signal indicative of an incline in the first plane; and a second pair of electrodes aligned along a second plane, orthogonal to the first plane, and partially immersed in a liquid for providing a second signal indicative of an incline in the second plane".

Similar to the arguments presented above with respect to claim 1, Hinckley describes a mobile device (in particular, a sensor-enriched mobile device based on the Cassiopeia E-105 Palm-sized PC) that includes a plurality of different sensors

(proximity range sensor, touch sensitivity sensor, and a tilt sensor) for controlling aspects of the mobile devices functionality and graphical user interface.

Kalinski discloses an image capture apparatus 10 that is arranged to detect the apparatus' orientation when an image is captured. The apparatus is arranged to store the image and associate the stored orientation information therewith. The orientation information may be used to select an image capture mode which orients the captured image by rotating it (see paragraph 85).

As mentioned in paragraph 79 which is cited by the examiner in the office action, the sensor for determining the orientation of the apparatus may be a capacitance based inclinometer. The variations in capacitance of the sensor are caused by variations in the displacement of a fluid which partially fills a sealed cavity. The movement of the fluid provides the variance of capacitance between sections of electrical conductors in the inclinometer. The variations in capacitance are read by the device and provide the orientation information.

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. (see MPEP 2143.01, page 2100-98, column 1). The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior

art also suggests the desirability of the combination (see MPEP 2143.01, page 2100-98, column 2). A statement that modifications of the prior art to meet the claimed invention would have been "well within the ordinary skill of the art at the time the claimed invention was made" because the references relied upon teach that all aspects of the claimed invention were individually known in the art is **not sufficient** to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references. (see MPEP 2143.01, page 2100-99, column 1) Ex parte Levengood, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993). >See also Al-Site Corp. v. VSI Int'l Inc., 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999) (The level of skill in the art cannot be relied upon to provide the suggestion to combine references.)

None of the prior art documents disclose a device which can enable a user to measure the inclination of the device or that the device may be used to measure the inclination of a surface. Specifically, Hinckley merely discloses that the device may be tilted to control aspects of the graphical user interface (the display mode or scrolling) or may be used to power on/of the device. Hinckley does not disclose that the device enables a user to determine the inclination of the device when in an inclinometer mode, as changes to the display are uncalibrated and cannot be used to determine inclination angles of the device.

Kalinski merely discloses that the inclination of the device is detected so that the device can select an appropriate display mode for a stored image. Kalinski does not disclose

that the device enables a user to determine the inclination of the device when in an inclinometer mode.

In the present case, there is no teaching, suggestion, or motivation, found in either the references themselves or in the knowledge generally available to one of ordinary skill in the art, to provide a "mobile cellular telephone" that "has an inclinometer mode, wherein the incline sensor comprises a first pair of electrodes aligned along the first plane and partially immersed in a liquid for providing a first signal indicative of an incline in the first plane; and a second pair of electrodes aligned along a second plane, orthogonal to the first plane, and partially immersed in a liquid for providing a second signal indicative of an incline in the second plane as claimed in claim 10. The features of claim 10 are not disclosed or suggested in the art of record. Therefore, claim 10 is patentable and should be allowed.

Claim 11 claims a "mobile cellular telephone comprising ... an inclinometer mode, in which the processor determines an approximate orientation of the mobile telephone from inputs from the first and second incline sensor means and automatically controls the display to display an item at a position representative of the incline for the determined orientation". Similar to the arguments presented above with respect to claim 1, Hinckley fails to disclose a device which can enable a user to measure the inclination of the device or that the device may be used to measure the inclination of a surface. Hinckley merely discloses that the device may be tilted to control aspects of the graphical user interface (the display mode or scrolling) or may be used to power on/of the

device. Hinckley does not disclose that the device enables a user to determine the inclination of the device when in an inclinometer mode, as changes to the display are uncalibrated and cannot be used to determine inclination angles of the device. The features of claim 11 are not disclosed or suggested in the art of record. Therefore, claim 11 is patentable and should be allowed.

Claims 15-25 have been added above to further claim the features recited therein. In particular, dependent claim 24 is supported by the description on page 4, lines 9 to 13, where the mobile telephone can emulate a spirit level and thereby enable a user to measure the inclination of a surface (see page 5, lines 15-34). Neither prior art document discloses or suggests that a device may emulate a spirit level when in an inclinometer mode.

Independent claim 25 recites "wherein the item provides an indication to the user of the incline of the mobile cellular telephone". This claim is supported by the description on pages 4 and 5. This claim further clarifies the "inclinometer mode". Neither of the prior art documents disclose or suggest this feature.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issue remain, the examiner is invited to call applicants' attorney at the telephone number indicated below.

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Respectfully submitted,



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12/12/2007

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